

Application No.: 10/065,379

Docket No.: JCLA8065

In The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A storage capacitor structure on a substrate, comprising:
 - a first capacitor electrode over the substrate;
 - a capacitor dielectric layer over the first capacitor electrode;
 - a second capacitor electrode over the capacitor dielectric layer, wherein the first capacitor electrode, the capacitor dielectric layer and the second capacitor electrode together form the storage capacitor;
 - a passivation layer over the second capacitor electrode, wherein the passivation layer has an opening that exposes a portion of the second capacitor electrode; and
 - a pixel electrode layer over the passivation layer, wherein the pixel electrode layer has a protruding section, and the second capacitor electrode and the pixel electrode layer are electrically connected using the protruding section through the opening in the passivation layer, and wherein when the first capacitor electrode comes in electrical contact with the second capacitor electrode, the protruding section can be cut so that the pixel electrode layer can serve as an upper capacitor electrode of the storage capacitor.
2. (Currently Amended) The capacitor structure of claim 1, wherein the pixel electrode layer ~~may~~ can be separated from the second capacitor electrode by cutting the protruding section

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of the pixel electrode layer if when the first capacitor electrode and the second capacitor electrode ~~form~~ are shorted circuit.

3. (Original) The capacitor structure of claim 1, wherein after the protruding section of the pixel electrode layer is cut due to short-circuiting between the first capacitor electrode and the second capacitor electrode, the pixel electrode layer serves as an upper electrode of the storage capacitor.

4. (Currently Amended) The capacitor structure of claim 1, wherein the pixel electrode layer has a neck section and a connective section such that the neck section ~~may~~ can be cut while the connective section and the second capacitor electrode are electrically connected together.

5. (Original) The capacitor structure of claim 4, wherein the protruding structure in the pixel electrode layer is an inward protruding structure.

6. (Original) The capacitor structure of claim 1, wherein the pixel electrode layer is connected to a switching device.

7. (Original) The capacitor structure of claim 1, wherein the pixel electrode layer is electrically connected to a thin film transistor.

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8. (Original) The capacitor structure of claim 7, wherein the first capacitor electrode is a portion of the gate terminal of the thin film transistor.

9. (Original) The capacitor structure of claim 1, wherein the second capacitor electrode is electrically connected to a common power source.

10. (Original) The capacitor structure of claim 1, wherein the pixel electrode layer has some overlapping region with the first capacitor electrode and the second capacitor electrode outside the protruding section.

11. (Currently Amended) A liquid crystal display device, comprising:
a plurality of scan lines;
a plurality of signal lines; and
a plurality of pixels with each pixel having a liquid crystal cell, a pixel electrode connected to a storage capacitor having an upper electrode, a lower electrode and a capacitor dielectric sandwiched between the upper capacitor electrode and the lower capacitor electrode, and a switching element connected to one of the liquid crystal cells and the signal lines, wherein each switching element is connected to one of the scan lines;

wherein the pixel electrode has a protruding section such that the protruding section of the pixel electrode is electrically connected to an the upper electrode of the storage capacitor through the protruding section.

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Claim 12 (Canceled).

13. (Currently Amended) The liquid crystal display device of claim 12, wherein the protruding section ~~may~~ can be cut to detach it from the pixel electrode ~~if the upper electrode and the lower electrode of the storage capacitor are in short circuit.~~

14. (Original) The liquid crystal display device of claim 11, wherein the switching element includes a thin film transistor.

15. (Original) The liquid crystal display device of claim 11, wherein the protruding section includes an inward-protruding structure.

16. (Original) The liquid crystal display device of claim 11, wherein the upper electrode is a portion of the gate terminal of the switching element.

17. (Currently Amended) A method of fabricating a storage capacitor, comprising the steps of:

providing a substrate;

forming a first capacitor electrode over the substrate;

forming a capacitor dielectric layer over the first capacitor electrode;

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forming a second capacitor electrode over the capacitor dielectric layer, wherein the first capacitor electrode, the capacitor dielectric layer and the second capacitor electrode together form the storage capacitor;

forming a passivation layer over the second capacitor electrode;

patterning the passivation layer to form an opening that exposes a portion of the second capacitor electrode; and

forming a pixel electrode layer over the passivation layer, wherein the pixel electrode layer has a protruding section such that the pixel electrode and the second capacitor electrode are electrically connected through the opening in the passivation layer, and the protruding section may can be cut to detach the pixel electrode layer from the second capacitor electrode so that the pixel electrode layer can serve as an upper capacitor electrode of the storage capacitor.

18. (Currently Amended) The method of claim 17, wherein the pixel electrode layer may can be detached ~~separated~~ from the second capacitor electrode by cutting open the protruding section ~~if the first capacitor electrode and the second capacitor electrode are in shorted circuit,~~ and the pixel electrode ~~also serves as an upper electrode for the storage capacitor after the cutting operation.~~

19. (Original) The method of claim 17, wherein the step of forming the pixel electrode layer further includes the steps of:

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forming a pixel electrode layer over the passivation layer such that the pixel electrode layer and the second capacitor electrode are electrically connected through the opening; and

patterning the pixel electrode layer to form the protruding section in the opening, wherein the protruding section includes a neck section and a connective section.